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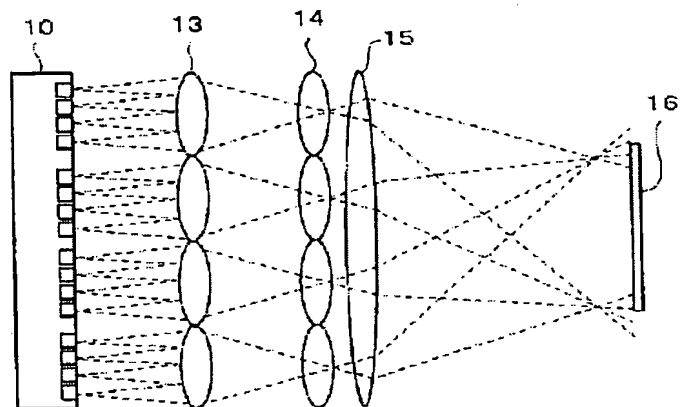
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TITLE : LASER LIGHTING OPTICAL SYSTEM,
ALIGNER USING THE SAME, LASER
PROCESSING DEVICE, AND
PROJECTION DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To provide a laser lighting optical system which is equipped with a laser array light source and fly's-eye lens and capable of improving an irradiated part in illuminance uniformity, even in a case in which an irradiated part is hard to be improved in illuminance uniformity when the number of divides of the split fly's-eye lens is the divisor of the number of laser arrays.

SOLUTION: This laser lighting optical system is composed of, at least, a laser array light source 10 and a fly's-eye lens integrator in vehicle the number of divides of the fly's-eye lenses 13 and 14 is the divisor of the number of laser arrays in the direction of the laser array. Light of the laser array light source 10 impinging on each lens of the fly's-eye lenses 13 and 14 is different from each other in phase in profile, the periodic structure of the laser arrays and the size of the fly's-eye lenses are determined under the prescribed condition, so that an irradiated part 16 can be set uniform in illuminance even under the condition that the number of divisions of the fly's-eye lenses is the divisor of the number of laser arrays.

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